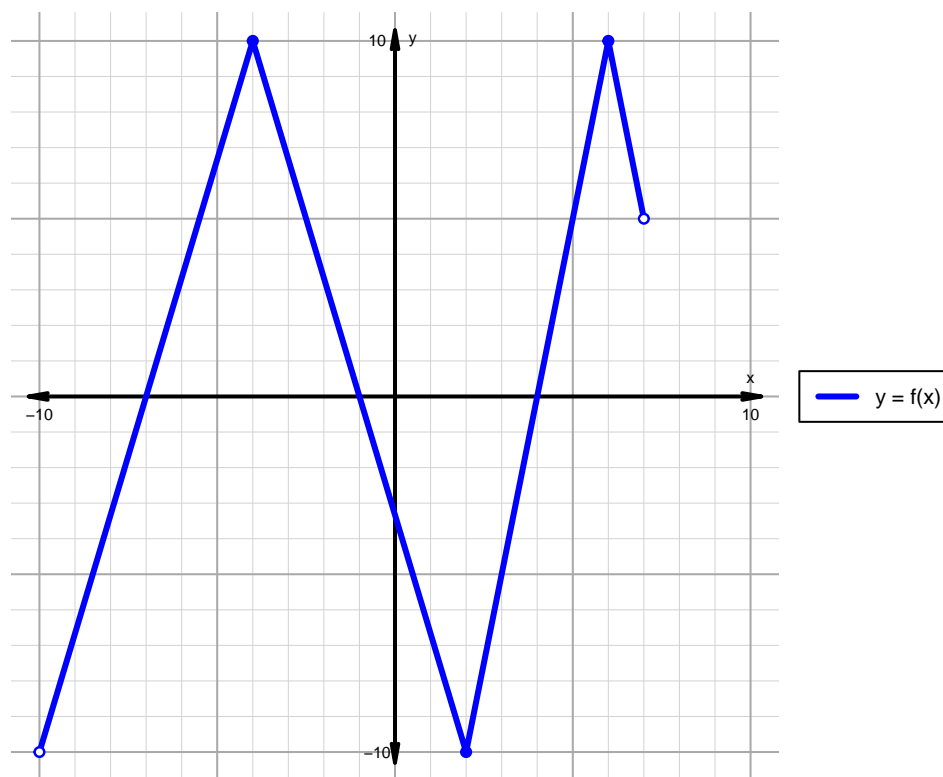


Name: \_\_\_\_\_

Date: \_\_\_\_\_

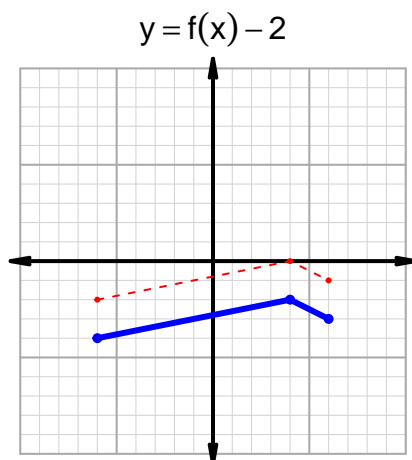
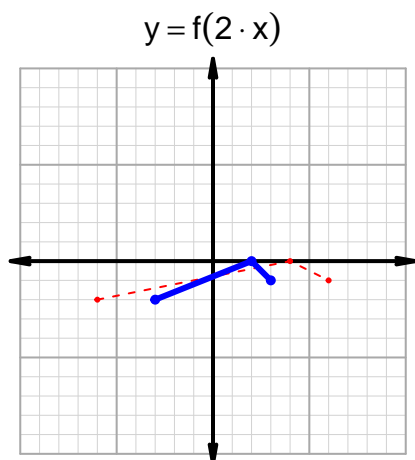
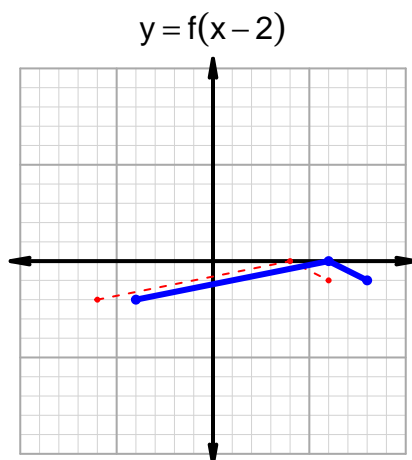
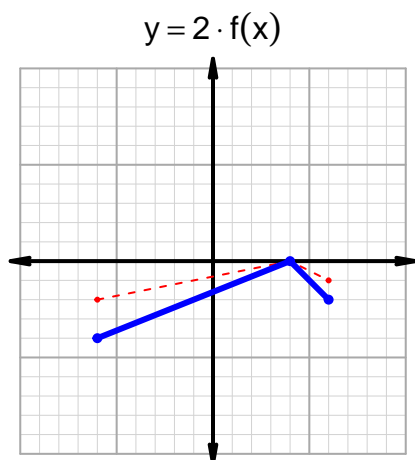
**Intervals, Transformations, and Slope Solution (version 86)**1. The function  $f$  is graphed below.

Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate  $x$  values; this is standard.

Feature	Where
Positive	$(-7, -1) \cup (4, 7)$
Negative	$(-10, -7) \cup (-1, 4)$
Increasing	$(-10, -4) \cup (2, 6)$
Decreasing	$(-4, 2) \cup (6, 7)$
Domain	$(-10, 7)$
Range	$(-10, 10)$

## Intervals, Transformations, and Slope Solution (version 86)

2. In the four graphs below,  $y = f(x)$  is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function  $g$  be defined by the table below. Use the formula  $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$  to find the average rate of change between  $x_1 = 11$  and  $x_2 = 83$ . Express your answer as a reduced fraction.

$x$	$g(x)$
11	16
16	83
32	11
83	32

$$\frac{g(83) - g(11)}{83 - 11} = \frac{32 - 16}{83 - 11} = \frac{16}{72}$$

The greatest common factor of 16 and 72 is 8. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{2}{9}$$